IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) Method for measuring and compensating skews of data transmission lines connecting at least one data transmission device with a data reception device via a parallel data bus comprising for each data transmission line the following steps:

a) measuring the relative time delay of the data transmission line by transmitting a determined sequence of measurement vectors ~~(MV)~~ each consisting of an alternating bit pattern via said data transmission line, wherein the bit alternation frequency is halfed with every transmitted measurement vector ~~(MV)~~;

b) comparing the received measurement vectors ~~(MV')~~ transmitted via said data transmission line with corresponding reference vectors ~~(RV)~~ stored in said data reception device;

c) shifting the received measurement vectors by inserting data unit intervals ~~(UI)~~ until a received measurement vector ~~(MV')~~ matches a corresponding reference vector ~~(RV)~~;

d) calculating a relative skew of the data transmission line depending of the number of inserted data unit intervals ~~(UI)~~ with respect to a slowest data transmission line;

e) and compensating the calculated relative skew of the data transmission line by means of delay elements switched in response to the calculated relative skew.

2. (Currently Amended) The method for measuring and compensating skews of a data transmission lines connecting at least one data transmission device and a data reception device according to claim 1 comprising for each data transmission line the following steps:

a) initializing an iteration loop counter ~~(i)~~ and an insertion counting variable to zero ~~(i:=0;insert variable:=Ø)~~;

b) activating the data transmission device to transmit a measurement vector ~~(MV_i)~~ consisting of an alternating bit pattern with a predetermined bit alternation frequency via said data transmission line to said data reception device, wherein each bit is transmitted during a predetermined data unit interval ~~(UI)~~, wherein the measurement vector ~~(MV_i)~~ corresponds to a reference vector ~~(RV_i)~~ stored in said data reception device;

c) comparing the measurement vector ~~(MV_i)~~ received by the data reception device via said data transmission line with the stored reference vector ~~(RV_i)~~;

d) wherein until the received measurement vector ~~(MV_i')~~ and the stored reference vector ~~(RV_i)~~ do match the following sub-steps are performed in an iteration loop:

d1) activating the data transmission device to send a next measurement vector ~~(MV_{i+1})~~ having half the bit alternation frequency of the preceding measurement vector ~~(MV_i)~~,

d2) substituting the reference vector ~~(RV_i)~~ to be compared by a next reference vector ~~(RV_{i+1})~~ which corresponds to the next measurement vector ~~(MV_{i+1})~~,

d3) inserting a number ~~(N)~~ of data unit intervals ~~(UI)~~ by shifting the received measurement vector ~~(MV_{i+1}')~~ by means of a shift register, wherein the number ~~(N)~~ of inserted data unit intervals ~~(UI)~~ is 2 given by the insertion counting variable ~~(insert: = insert + 2^i)~~

d4) incrementing the iteration loop counter ~~(i:=i+1)~~;

e) and calculating the relative skew of the data transmission line depending on the number of inserted data unit intervals ~~(UI)~~ counted by said insertion variable ~~(insert)~~.

3. (Currently Amended) The method for measuring and compensating skews of a data transmission lines according to claim 2, wherein for calculating the relative skew of the data transmission line in step (e) the following sub-steps are performed:

e1) incrementing the iteration loop counter ~~(i) (i=i+1)~~;

e2) activating the data transmission device to transmit a next measurement vector having half the bit alternation frequency of the last measurement vector transmitted in the iteration loop of step (d) via said data transmission line to said data reception device;

e3) substituting the last reference vector ~~(RV)~~ used in the iteration loop of step (d) by a reference vector which corresponds to the measurement vector transmitted in step (e2);

e4) comparing the measurement vector ~~(MV')~~ received by the data reception device with the reference vector substituted in step e3);

e5) wherein the skew of the data transmission line is calculated as: skew = 2^i-insert

in case that the vectors compared in step (e4) do not match and as:

skew= -insert

in case that the vectors compared in step (e4) do match,

wherein insert is the insertion variable accumulated in step (d4).

4. (Original) The method for measuring and compensating skews of data transmission lines according to claim 1 wherein the method is performed when the data reception device is powered up.

5. (Original) The method according to claim 1 wherein after compensation the skew of all data transmission lines is accomplished data are transmitted from the data transmission devices to the data reception device in a normal data transfer mode.

6. (Original) The method according to claim 1 wherein the data transmission devices are DRAMs.

7. (Original) The method according to claim 1 wherein the data reception device is a HUB of a memory module.

8. (Original) The method according to claim 1 wherein the data reception device comprises for each data transmission line a clock and data recovery unit to lock to the first measurement vector transmitted via said data transmission line.

9. (Currently Amended) The method according to claim 1 wherein for compensating the skew of a data transmission line the following sub-steps are performed:

a) determining the maximum skew ~~(skew max)~~ of the calculated skews of all data transmission lines;

b) calculating a relative skew of each data transmission line with respect to the maximum skew of the slowest data transmission line,

c) and delaying each data transmission line with its calculated relative skew.

10. (Original) The method according to claim 1 wherein the data transmission devices are activated by means of a request signal sent via a separate command line from the data reception device to the data transmission devices.

11. (Original) The method according to claim 10 wherein the data transmission devices are activated simultaneously.

12. (Original) The method according to claim 1 wherein the data transmission lines form part of a bi-directional data bus.

13. (Currently Amended) The method according to claim 1 wherein the comparing of the received measurement vectors ~~(MV')~~and the reference vectors ~~(RV)~~ is performed by means of an EXOR logic.